because: (1) it was available, (2) it is part of the money we as taxpayers have given to government, (3) if we didn't take it, it would be made available to others who might be less qualified to do the research we are engaged in, and (4) it had no strings attached to it.

If we had our choice, we would by far prefer to accept such monies from private sources in order to involve private giving in concrete research projects and to demonstrate that professional organizations like ours are both capable and interested in such research activities. We believe that, in the creation of the California Medical Education and Research Foundation, the California Medical Association is providing visible evidence of such a philosophy. Moreover, it is demonstrating that it is dealing with vital issues of concern to the people of California and to the health professions that are dedicated to the alleviation and eradication of disease. Through your many activities, you of the Woman's Auxiliary are demonstrating a similar concern. We salute you for your work, and look forward to the day when we may be able to enjoy a small measure of your financial support for our work.

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LETTERS *to the Editor*

The Fetus and Its Environment

THE EXCELLENT WORK of the California Maternal Mortality Study Committee reported by Leon Parrish Fox, M.D., in the CMA of September prompted me to pull out 100 records at random from our files of children born with defects in order to review the prenatal histories. Our figures refute the oft stated belief that causes of defects are not known in most instances.

Of the 100 cases—there were 3 adopted children in which the histories were not known and there were 3 cases in which the pregnancy, delivery and family history appeared normal. This left 94 cases adequately explained. Of the total group 13 per cent had either hypoxia or trauma at birth; 16 per cent had genetic defects or a family history of birth defects. In 34 per cent there were maternal health factors adverse to normal fetal development and in 31 per cent there were unfavorable intrauterine factors. The maternal factors included infections early in pregnancy, drugs, radiation, toxemia, etc. Two striking factors appeared; 6 per cent of the mothers were outside the optimum child bearing period, over 39 or 40 years or under 16 years, and there were 5 older mothers to one younger (15 years). Fifteen per cent of the mothers had a history of psychosis before or during pregnancy, or a severe shock early in pregnancy (such as seeing one of her children hit by an automobile) or prolonged emotional stress and unhappiness (as one mother said, "I cried for nine months").

Of the intrauterine factors the most common cause was bleeding. Usually this occurred early in pregnancy but it was also associated with placenta praevia and premature separation. Other factors included multiple births, cord entanglements, RH incompatability and pre- and post-maturity. When the prenatal histories were considered instead of birth weights, it was found that the same factors were operative in both children born prematurely and at term. In other words bleeding early in pregnancy might cause defects and *premature delivery of the fetus* or it might cause defects but the fetus was carried to term. This casts a new light in the subsequent development of premature infants.

The pregnancy study in Kuhai reported by Dr. Bierman* and staff has been reviewed and it will be noted in her figures that for every prenatal death there were two surviving severely handicapped children (there were more than two if lesser degrees were included). The residium of crippled and retarded children and maternal and fetal mortality are interrelated. This points out the necessity for Obstetrics, Pediatrics, Public Health and other health services to combine their efforts to reduce the chain of events that lead to maternal and fetal mortality and morbidity.

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*Bierman, Jessie M. *et al.*, The community impact of handicaps of prenatal or natal origin, Public Health Reports, 78:10, Oct. 1963.